

[illegible]

Delaware  
Department  
of Transportation

(BACK OF COVER)

Front cover:

Beers, D.G. Mill Creek Hundred. *Atlas of the State of Delaware*. 1868.

**CULTURAL RESOURCE SURVEY  
CAPITOL TRAIL (SR 2)/POSSUM PARK ROAD (SR 72)  
INTERSECTION IMPROVEMENTS  
NEW CASTLE COUNTY, DELAWARE**

**Delaware Department of Transportation Project 89-116-01  
ARCHAEOLOGY SERIES NO. 100**

**By**

**John W. Martin**

**RUTGERS UNIVERSITY CENTER FOR PUBLIC ARCHAEOLOGY**

**Submitted to**

**DELAWARE DEPARTMENT OF STATE  
Division of Historical and Cultural Affairs  
Bureau of Archaeology and Historic Preservation**

**and**

**U.S. DEPARTMENT OF TRANSPORTATION  
Federal Highway Administration**

**Prepared for**

**DELAWARE DEPARTMENT OF TRANSPORTATION  
Division of Planning  
Location and Environmental Studies Office**

**Eugene E. Abbott  
Director of Planning**

**1994**

## **ABSTRACT**

A Phase I cultural resource survey was conducted by the Rutgers University Center for Public Archaeology for the Delaware Department of Transportation in advance of proposed improvements at the intersection of Capitol Trail (SR 2) and Possum Park Road (SR 72), Newark, New Castle County, Delaware. This project comprised background research, surface reconnaissance, and subsurface testing of the 2± acre project area followed by a report of investigations. Background research revealed no previously identified cultural resources within the project area. Field investigations revealed scattered prehistoric remains but failed to yield evidence of any cultural resources eligible for inclusion on the State or National Register of Historic Places. Interpretations for the lack of archaeological remains discuss the suitability of the project area for habitation in comparison to nearby locations. The planned improvements to this intersection do not require any further archaeological study.

## **ACKNOWLEDGEMENTS**

Appreciation for their support, administration, research, and services is extended to all the following individuals:

From the Division of Highways: Raymond M. Harbeson, Director/Chief Engineer; Raymond D. Richter, Assistant Director, Preconstruction; Joseph T. Wutka, Jr., Location Studies and Environmental Engineer; Kevin W. Cunningham, DelDOT Archaeologist; Joy Mengel-Ford, Environmental Planner; Terry Fulmer, Environmental Manager; Carol L. Cates, Secretary; and Joanna Likens, Project Scheduling and Support.

From the Federal Highway Administration: John J. Gilbert, Division Administrator; and Robert Klienburd, Environmental Coordinator.

From the Division of Historical and Cultural Affairs: Daniel R. Griffith, State Historic Preservation Officer.

From the Bureau of Archaeology and Historic Preservation: Joan Larrivee, Bureau Chief; and Gwen Davis Coffin, Archaeologist.

## TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT .....	i
ACKNOWLEDGEMENTS .....	ii
TABLE OF CONTENTS .....	iii
LIST OF FIGURES .....	iv
LIST OF PLATES .....	iv
INTRODUCTION .....	1
Project Description and Location .....	1
BACKGROUND RESEARCH .....	4
Physical Geology and Environment .....	4
Prehistoric Background .....	4
Historic Background .....	9
Documentary Research .....	11
RESEARCH DESIGN .....	13
DESCRIPTION OF WORK .....	15
INTERPRETATIONS, CONCLUSIONS, AND RECOMMENDATIONS .....	18
REFERENCES .....	19
APPENDICES .....	21
Personnel .....	22
Artifact Inventory .....	24
Scope of Work .....	26
Proposal for Project .....	29

## LIST OF FIGURES

<b><u>Figure</u></b>	<b><u>Title</u></b>	<b><u>Page</u></b>
1.	Location of Project Area .....	2
2.	Physiographic Location of Project Area.....	5
3.	Beers map of Mill Creek Hundred 1868.....	12
4.	Locations of Shovel Test Pits .....	16
5.	Representative Soil Profiles .....	17

## LIST OF PLATES

<b><u>Plate</u></b>	<b><u>Description</u></b>	<b><u>Page</u></b>
1.	West Side of Possum Park Road.....	6
2.	Parking Lot and Baseball Field.....	7

## **INTRODUCTION**

### **Project Description and Location**

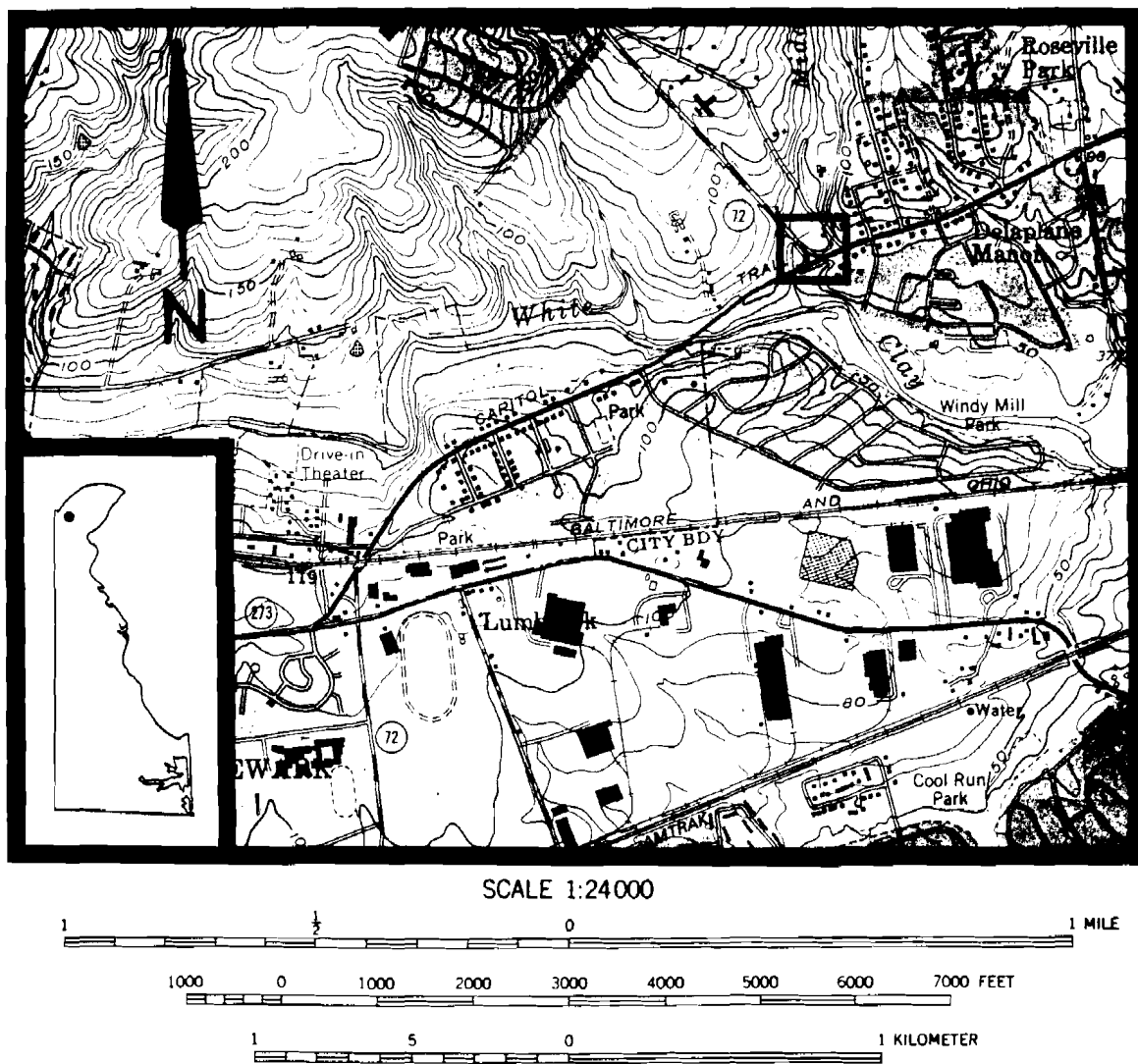
The Delaware Department of Transportation (DelDOT) is proposing improvements at the intersection of Capitol Trail (SR 2) and Possum Park Road (SR 72), Newark, New Castle County, Delaware (Figure 1). The Rutgers University Center for Public Archaeology was selected to perform Phase I and (if necessary) Phase II testing of the project area. This investigation involved background research, a field reconnaissance survey, a program of subsurface testing designed to determine the presence or absence of significant archaeological remains (Phase I) and to assess their potential eligibility to the National Register of Historic Places (Phase II), and the production of this report that includes relevant data along with appropriate evaluations, conclusions, and recommendations. The goal of this cultural resource survey was the identification and definition of any potentially eligible prehistoric or historic archaeological features within the proposed project area.

This investigation was designed to satisfy the instructions and intents set forth by Section 101(b)(4) of the National Environmental Policy Act of 1969; Sections 1(3) and 2(b) of Executive Order 11593; Section 106 of the National Historic Preservation Act; 23 CFR 771, as amended October 30, 1980; 36 CFR 66; the guidelines developed by the Advisory Council on Historic Preservation and published on November 26, 1980; 36 CFR 48; and, the amended Procedures for the Protection of Historic and Cultural Properties as set forth in 36 CFR Part 800. In addition, the work was designed to satisfy Delaware State Antiquities Act, Delaware Code Title 7, Chapters 53 and 54; Delaware Code Title 29, Sections 551-552; and, Delaware Code Title 68, Chapter 7.

The archaeologists performing this work meet the qualifications specified in 36 CFR 66.3(b)(2), as amended September 28, 1983 with 36 CFR 48. All information submitted in this survey is factual and sufficiently complete to allow for the necessary DelDOT and Delaware State Historic Preservation Office (SHPO) review and for the Secretary of the Interior to determine the eligibility of all potentially significant archaeological sites identified within the project area. Significance will be evaluated in accordance with the Criteria for Inclusion in the National Register of Historic Places (36 CFR 60.4).

The project is located in the Windy Hills section of New Castle County, just east of the City of Newark. The project area comprises approximately 2 acres on the east and west sides of Possum Park Road and a short distance to the north of Capitol Trail. An unnamed creek flows southward through the project area along the east side of Possum Park Road to its confluence with Middle Run, which runs westward through the southern end of the project area. Fieldwork for this project was accomplished June 15-18, 1993. The majority of the project area to the east of Possum Park Road is currently an unpaved parking area associated with the George R. Clark baseball field adjacent to the north boundary of the project.





**Figure 1.** Location of Project Area. Scale: 1 inch = 2000 feet.  
Source: USGS Newark East Quadrangle.

With the exception of locations where the unnamed creek is contained in culverts that pass under the two entrances to the parking area, the areas bordering the streams are wooded. A sanitary sewer crosses the unnamed creek near its confluence with Middle Run and runs roughly parallel to Middle Run through the project area. A small portion of this eastern project area is located on the south side of Middle Run and borders the Wendy's restaurant parking lot. A man-hole is situated in this landscaped area. The section to the west of Possum Park Road and north of Middle Run is covered by dense brush. This area lies between Possum Park Road and a cultivated field. A small portion extends across Middle Run and is adjacent to a nursery and sod store. Like the east side of the road, this area has also been landscaped.

## **BACKGROUND RESEARCH**

### **Physical Geology and Environment**

The Possum Park Road project area is located at the fall line which forms the interface between the High Coastal Plain and the Piedmont Uplands physiographic provinces (Figure 2). The area is characterized by several terraces overlooking the confluence of Middle Run and an unnamed tributary. The confluence of Middle Run and White Clay Creek is located roughly 600 feet to the south of the project area. The project area is divided by Possum Park Road with the majority of the project located on the east side of the road.

Soils adjacent to Middle Run are classified as Kinkora silt loam (Matthews and Lavoie 1970). Kinkora series soils are poorly drained and typically support mesic tolerant mixed hardwood trees. The area on either side of Possum Park Road is mapped as Delanco silt loam. This soil type is moderately well drained and supports hardwood species (primarily oak). However, it is prone to retaining water (approximately once a month) due to its level topography. Vegetation within the project area consists of grasses in cleared portions and secondary growth trees (Plate 1). Dominant tree species include yellow poplar, maple, sycamore, and white mulberry along with American holly. The understory is composed of a variety of shrubs including wild rose and poison ivy.

Recent disturbances within the project area comprise the construction of the aforementioned Wendy's restaurant, the emplacement of the sanitary sewers and other utilities, and the grading of the parking lot (Plate 2). As discussed in the Documentary Research section, the project area remained undeveloped until the present century when the southern portion of Possum Park Road was realigned to its current location.

### **Prehistoric Background**

The prehistory of Delaware and the Delmarva Peninsula is summarized from detailed discussions presented elsewhere (Custer 1984, 1986, 1989). Native American cultures in Delaware have been divided into five segments: Paleo-Indian, Archaic, Woodland I, Woodland II, and European Contact. With the exception of the last period, these divisions are based on perceived changes in subsistence, settlement, and social systems of local prehistoric peoples primarily in response to changes in local and regional environments and social conditions.

At the time of the initial peopling of the Western Hemisphere, the Pleistocene Epoch was drawing to a close, but the effects of the Wisconsin Glaciation continued to influence the climate. Based on pollen profiles from locations in Delaware, at that time the region was characterized by a mosaic of different vegetational communities comprising grasslands interspersed among large stands of conifers with some deciduous trees present as well. The earliest prehistoric Native Americans, the Paleo-Indians (ca. 10,000 B.C.), were hunters and gatherers who employed distinctive chipped stone projectile points and knives referred to as "fluted points." The majority

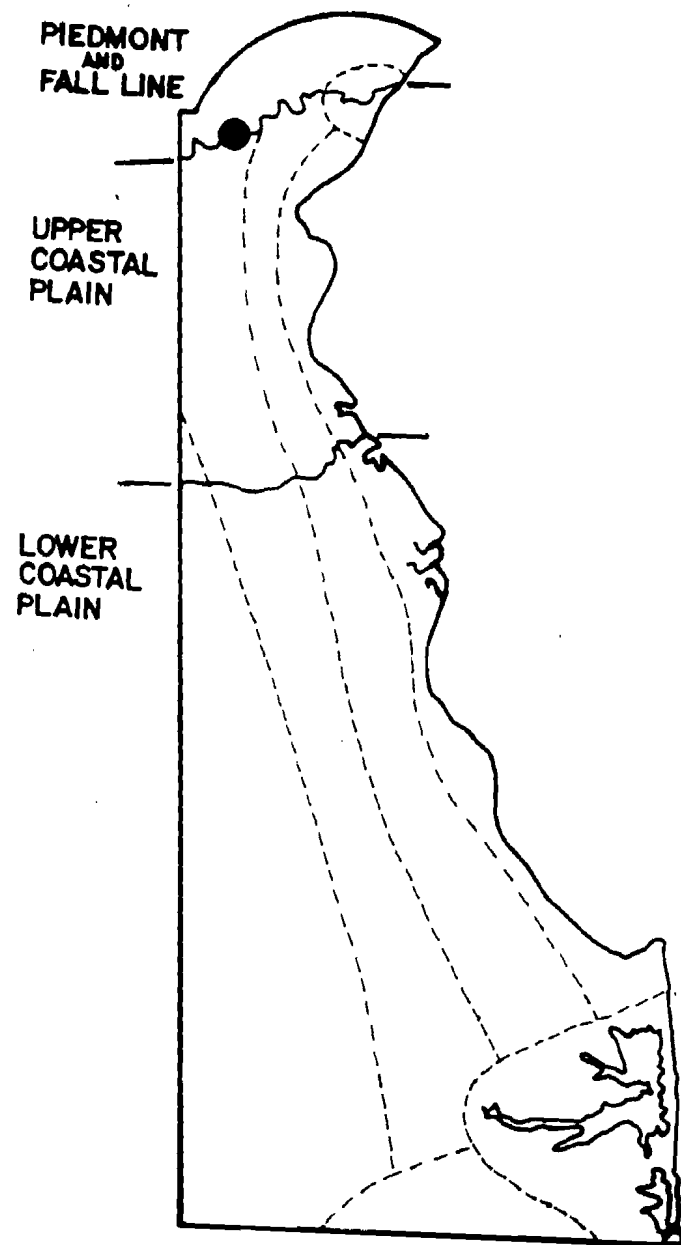


Figure 2. Physiographic Location of Project Area.  
Source: Custer 1984.



**Plate 1.** View looking northwest across Possum Park Road showing the project area on the west side of the road. Photographer: John W. Martin, June 1993.



**Plate 2.**      **View looking northwest of parking lot and George R. Clark baseball field.**  
**Photographer: John W. Martin, June 1993.**

of these implements were manufactured from high-quality cryptocrystalline lithic raw material(s). Similar fluted points were found in the western United States in direct association with extinct Pleistocene megafauna such as bison and mammoth. However, no such association has yet been documented east of the Mississippi River.

In Delaware and other parts of the Middle Atlantic region, smaller mammals such as caribou, elk, and deer are thought to have been the focus of Paleo-Indian hunting activities. Floral and faunal remains from the Paleo-Indian component of the Shawnee-Minisink site in the Upper Delaware Valley also document the exploitation of wild plant foods and fish (McNett et al. 1977; Kauffman and Dent 1982). The relatively sparse evidence for this period suggests that Paleo-Indians lived in small, highly mobile groups or bands. It is also suggested that the preference for high quality stone materials influenced the settlement pattern. Many Paleo-Indian sites are located near primary geological outcrops or rich gravel beds containing these raw materials. In the latter stages of this period a variety of notched bifaces replaced the fluted points.

The beginning of the Archaic period coincides with the development of Holocene environments by circa 6500 B.C. During this period essentially modern environments developed in the Middle Atlantic region. The Archaic period represents a continuation of lifeways essentially similar to those interpreted for the Paleo-Indian period but without the almost exclusive reliance on cryptocrystalline raw lithic material. A variety of ground stone tools were added to the chipped stone tool kit indicating a greater use of floral resources. Group movements were scheduled to coincide with the seasonal availability of a variety of floral and faunal resources. The exploitation of these floral and faunal species involved scheduled movements to take advantage of differentially available resources. In general, Archaic cultures exploited a wider variety of resources than their predecessors and did so from more specialized sites located in a greater range of settings. However, evidence suggests that they also lived in small, highly mobile bands.

During the Woodland I period (ca. 3000 B.C.) there was a marked shift toward more sedentary lifeways. Settlements became larger and more numerous, particularly in highly productive riverine and estuarine habitats where both marine fish and shellfish were exploited. Recurrent seasonal occupation of sites is also apparent as are changes in technologies. The latter innovations include the appearance of heavy woodworking tools such as axes and adzes, large stone hearths and, during the early part of the period, carved steatite vessels which are believed to have increased cooking efficiency and possibly served as storage containers. Ceramic vessels also make their appearance (ca. 1000 B.C.) during this period. Some of the earliest types had flat bases and handles similar in form to steatite containers. Conical shaped ceramic vessels occur during the first millennium and persisted until the arrival of Europeans. During Woodland I times, a variety of notched and stemmed bifaces manufactured from a wide variety of lithic materials were in use. The presence of non-local items at many sites that date to this period are indicative of wide-ranging trade and exchange networks and the possible presence of complex, hierarchical social systems.

The final prehistoric period in Delaware (Woodland II), began at approximately A.D. 1000. The trade and exchange networks of the preceding period had broken-down or ceased to function by this time. Hoe-type horticulture, including crops such as maize, beans, and squash, supplemented traditional wild animal and plant foods, however its impact in Delaware was limited (Custer and Griffith 1986; Stewart et al. 1986). The introduction of the bow and arrow and exclusive use of triangular projectile points were the two major technological innovations. Ceramics exhibit complex incised design motifs and clay tobacco pipes also make their first appearance.

The arrival of European explorers and settlers marks the close of the Woodland II period. Contact with the native peoples brought about profound and irreversible changes in the socio-economic organization and technologies of Delaware's Native Americans. An increased reliance upon articles of European derivation takes place while concomitantly, an overall decline is noted in the manufacture and use of native goods. During the 17th and 18th centuries European diseases, conflict, and treachery decimated the aboriginal populations to the extent that, by 1800, only a few individuals remained as residents within the state.

## **Historic Background**

The following history of Delaware and New Castle County has been summarized from previous DelDOT reports (Coleman et al. 1984; Coleman et al. 1985) as well as Catts and Coleman (1986) and the State Plan for Historical Archaeological Resources (De Cunzo and Catts 1990).

The early history of Delaware is characterized by the shifting of authority between overseas nations who had laid claim to the area. In fact, the same pattern occurred further up the Delaware River Valley and in the Hudson River Valley as well. The transitional episode for Delaware is briefly detailed below.

While the Dutch West India Company was first to attempt a permanent settlement in Delaware in 1630, this site (near present day Lewes) was destroyed by the native population in 1631. More successful was the Swedish settlement at Fort Christina in 1638, near modern Wilmington. The Dutch took control of Delaware in 1655, based at Fort Casimir near the town of New Amstel (New Castle). This area became the center of commerce for the lower Delaware Valley. In 1664 the English gained control of all Dutch possessions in the western hemisphere, including Delaware. William Penn was given proprietary rights to the area and Delaware was placed under the political and economic control of Philadelphia.

Settlement during this early period primarily consisted of dispersed farmsteads located along the Delaware River and its tributaries. When Penn took control he implemented a system of granting tracts or parcels to settlers, usually families. Philadelphia and New Castle comprised the only commercial and social centers in the area with the remaining settlements consisting of hamlets located along the major transportation routes. As the road network was extremely poor, transportation was primarily by waterway. One exception to this was "Ogle's Town," which was



situated on the road to the Elk River by 1679, approximately two miles southeast of the project area. The town of Christiana Bridge was established at the head of navigation of Christiana Creek in 1660

As the economy grew, so did the government. In 1687 five tax districts, called Hundreds, were established in New Castle County. By 1710 four additional districts were created. Among these was Mill Creek Hundred which contains the project area. The economy of early colonial New Castle County, as well as all of Delaware, was agriculturally based. Swedish settlers initially grew rye and barley but subsequently switched to wheat when they discovered the relative ease with which it could be grown and marketed. As a result, farming changed from subsistence-based to market-oriented. During the 17th century, milling became one of the earliest manufacturing industries in the area. By the beginning of the 18th century the Middle Atlantic region was recognized for its specialization in wheat and grain production. Lumber was another important commodity, though the majority produced in New Castle County was probably used locally. An iron manufacturing industry arose during the middle of the 17th century, specifically associated with the Iron Hill area.

With improvements to the overland transportation system, during the 18th century, settlements shifted away from navigable waterways. Newport, established ca. 1735, was on a par with Wilmington and Christiana Bridge as a grain shipping and milling center during the 18th century. Newark, chartered in 1758, was one of the first inland market towns and symbolized a change from the traditional shipping towns located along waterways. Its location at crossroads of major east-west and north-south transportation routes enabled Newark to supply the local area with goods brought in from the surrounding region. Several of the mills along White Clay Creek were in the vicinity of Newark providing goods for the local community as well as for sale elsewhere. Another developmental factor for the town was the Newark Academy, a secondary school, which was established by the early 1760s. The Academy was eventually absorbed by Delaware College (later the University of Delaware) in 1834 (Conrad 1908).

Wilmington became the dominant urban center in New Castle County following its charter in 1739. The proximity of the Brandywine mills provided Wilmington with readily available goods for shipment. In addition, its location near the mouth of the Christiana River made shipment to and from other New Castle County and regional centers very convenient.

Nineteenth century New Castle County saw an increase in industrialization and urbanization along with a decline in farming, though agriculture still predominated throughout most of the century. Tenant farming became prevalent and crop exporting gave way to specialized production that served the needs of the increasing urban populations. Dairy products, vegetables, and fruit became the primary products in an economy of truck farmers. Over time the spreading population caused farmers to make use of less fertile land which reduced their profits and subsequently forced many to move from the area.

The 19th century witnessed the decline of some of the former centers of commerce such as Ogletown and Christiana Bridge, which newly constructed railroads had bypassed. In contrast, towns such as Stanton, Newport, and Newark benefited by the proximity of the railroads. While milling remained a significant industry in the county during this century, this enterprise shifted from a primarily agricultural orientation to more industrialized in nature. This increase in industrialization/urbanization and decrease in agriculture continues to the present day.

## **Documentary Research**

Background research revealed that no archaeological sites have been identified or recorded within the project area. There is, however, a prehistoric archaeological site within one mile of the project area (7NC-D-131) and 27 archaeological sites are within a two mile radius. Many of these sites were discovered during DelDOT sponsored surveys or other development related construction projects. The registered prehistoric sites have yielded diagnostic artifacts spanning from the Paleo-Indian to Woodland II periods. All are located on the High Coastal Plain and none are recorded within the Piedmont Uplands. The sites range in function from temporary procurement and processing camps to residential base camps. In fact, Area B of site 7NC-D-131 (Coleman et al. 1987; Hoseth and Seidel 1993) has been tentatively identified as a Woodland I base camp associated with the Clyde Farm Complex. Larger sites tend to be located adjacent to free-flowing, perennial streams while the smaller sites often occur on knolls that overlook swampy areas or intermittent water courses.

The examination of 19th century maps provided no evidence of primary historic period structures within the project area. A list of the maps consulted is contained within the References section and includes: Rea and Price (1849); Beers (1868); Hopkins (1881); and Baist (1893). Additionally, no historic period sites are included within the cultural resource inventory maintained by the Bureau of Archaeology and Historic Preservation. The Roseville Mill once operated on Middle Run in the vicinity of the project area but has since been demolished. In addition, an agricultural complex (N10076) is located on Old Possum Park Road. This complex is centered on a Gothic Revival style farmhouse, which, on the basis of the architecture, probably dates to the mid-19th century. In fact, a structure is located in this approximate location on the Rea and Price map of 1849. However, this complex lies well beyond the project boundaries.

Possum Park Road was serving as a local connector between this section of the White Clay Creek Valley and the Milford Crossroads area by the mid-19th century. The original course of this road, in the vicinity of Capitol Trail, is currently occupied by Old Possum Park Road, situated to the east of the project area (Figure 3). The course of Possum Park Road was straightened during the 20th century (see Figure 1). Modern alterations to the project area include the installation of underground utilities, grading for a parking area, and modifications to the unnamed creek and Middle Run associated with Possum Park Road and the bridge that carries the road over the stream.



## RESEARCH DESIGN

Although no prehistoric sites have been reported within 5000 feet of the project area, and none in the upper reaches of Middle Run, it is located very near the border between those regions denoted as having high and medium known site densities within the management plan for Delaware's prehistoric cultural resources (Custer 1986: Figure 37). At a more detailed level (Custer and DeSantis 1986: Figure 24), the project area is located in Zone II, an area of "Medium to Low Significance Site Probability, Medium Site Data Quality."

Numerous sites have been identified on the High Coastal Plain within the drainage basin of White Clay Creek. These sites range from small stations to base camps. However, the existing data base reflects a lack of identified sites in the Piedmont Uplands. Based on existing models of prehistoric settlement (Custer 1984, 1986, 1989; Custer and DeSantis 1986), sites in this physiographic province are expected to comprise resource procurement locations containing small assemblages of artifacts that suggest a restricted range of activities. Such sites are expected to only exhibit residues from extractive forays into this physiographic province.

Potential resources available for exploitation within this habitat setting include hardwoods for tools and weapons and mast which would also serve to attract game species such as deer and turkey. The presence of a stream confluence within the project location and a larger confluence just to the south of the project area suggests that this setting may have been attractive for Native American exploitation.

The project area lies within three miles of the Delaware Chalcedony Complex, a cryptocrystalline lithic resource site used throughout prehistoric times, but particularly noteworthy during the Paleo-Indian period. Utilizing the settlement models devised for the Paleo-Indian study unit, the project area would appear suitable for a quarry-related base camp during this period. This hypothesis was based on the project's location at a stream confluence with a southern exposure and the accessibility to upland resources as well as those in the floodplain of White Clay Creek. Archaic period settlement models for the Piedmont Uplands suggested that the project area may have been the location of a procurement site or even possibly a micro-band base camp, with similar site types possible during the Woodland I period. During the Woodland II period a procurement site seems most likely, as the locale's proximity to the White Clay Creek Valley and the valley's obvious attractiveness for prehistoric settlement might have obviated the need for a micro-band camp at this location (Custer 1986).

Another avenue of investigation involved examining the suitability of soils within the project area for prehistoric habitation. Research revealed that the project area is situated on soils that are mapped as poorly drained (Matthews and Lavoie 1970). A cursory review of soils associated with prehistoric sites within this portion of New Castle County disclosed that all sites registered with soil classifications are located on well drained soils.

Based on this information, the project area was judged to have a low probability of containing prehistoric cultural resources. However, on a previous visit to the location, DelDOT Archaeologist, Kevin Cunningham (1993: Personal communication), reported finding a flake in the bank of Middle Run, west of Possum Park Road. He could not determine, though, whether the flake was *in situ* or had been transported from elsewhere by alluvial or colluvial action.

According to the *Management Plan for Delaware's Historical Archaeological Resources* (De Cunzo and Catts 1990: 192), the primary objective of reconnaissance level surveys is to identify all of the archaeological resources within a project area. Initially, research into the potential for historic period archaeological resources focused on historic maps and recorded sites. Unfortunately, the plan segregates first along temporal domains; the absence of mapped resources within the project area for the 17th through 19th centuries impedes application. The lack of any known or suspected primary or secondary historical resources within the project area required an appropriate investigative strategy. Therefore, the research design employed was designed to identify historical resources of any nature.

The possibility existed that historic period remains associated with either the Roseville Mill site, situated on Middle Run, or the agricultural complex located along Old Possum Park Road (N10076) may be present within the project area. Such remains were anticipated to comprise deposits or scatters of historic refuse.

## DESCRIPTION OF WORK

The surface of the entire project area was inspected for the presence of artifacts and/or features by a team of five archaeologists, including the Field Supervisor. Subsequently, a total of 32 shovel test pits (STP's) were excavated within the project location. These were excavated within transects at an interval of 15 meters (Figure 4). The tests were 0.5 meters in diameter and were excavated to an average depth of 1 meter below surface. The STP's were arranged in three transects on the east side of Possum Park Road with additional tests interspersed so as to assure adequate coverage within the project boundaries. The transects were spaced at a maximum of 15 meters apart. Testing on the west side of Possum Park Road employed a single transect of 7 STP's. Soil profiles (Figure 5) were consistent with the previously mapped soils for the area (Matthews and Lavoie 1970).

Subsurface testing resulted in the recovery of cultural material from four of the STP's. No other tests yielded cultural remains. Historic artifacts were retrieved from three of the tests (STP's 2, 8, and 12) while the fourth contained a single quartz flake (STP 21). The historic material comprised 19th century domestic debris. All of these materials originated from disturbed soils. A majority of the STP's contained modern debris in the upper soil strata including the tests containing historic artifacts; no cultural materials were noted in the lower, undisturbed soil strata.

The cultivated field west of the project area was subjected to a cursory surface reconnaissance along its eastern margin and part of its southern edge. Two artifacts were recovered from the field, a core fragment and a flake, both of quartz. However, the artifacts were not found immediately adjacent to the project area.



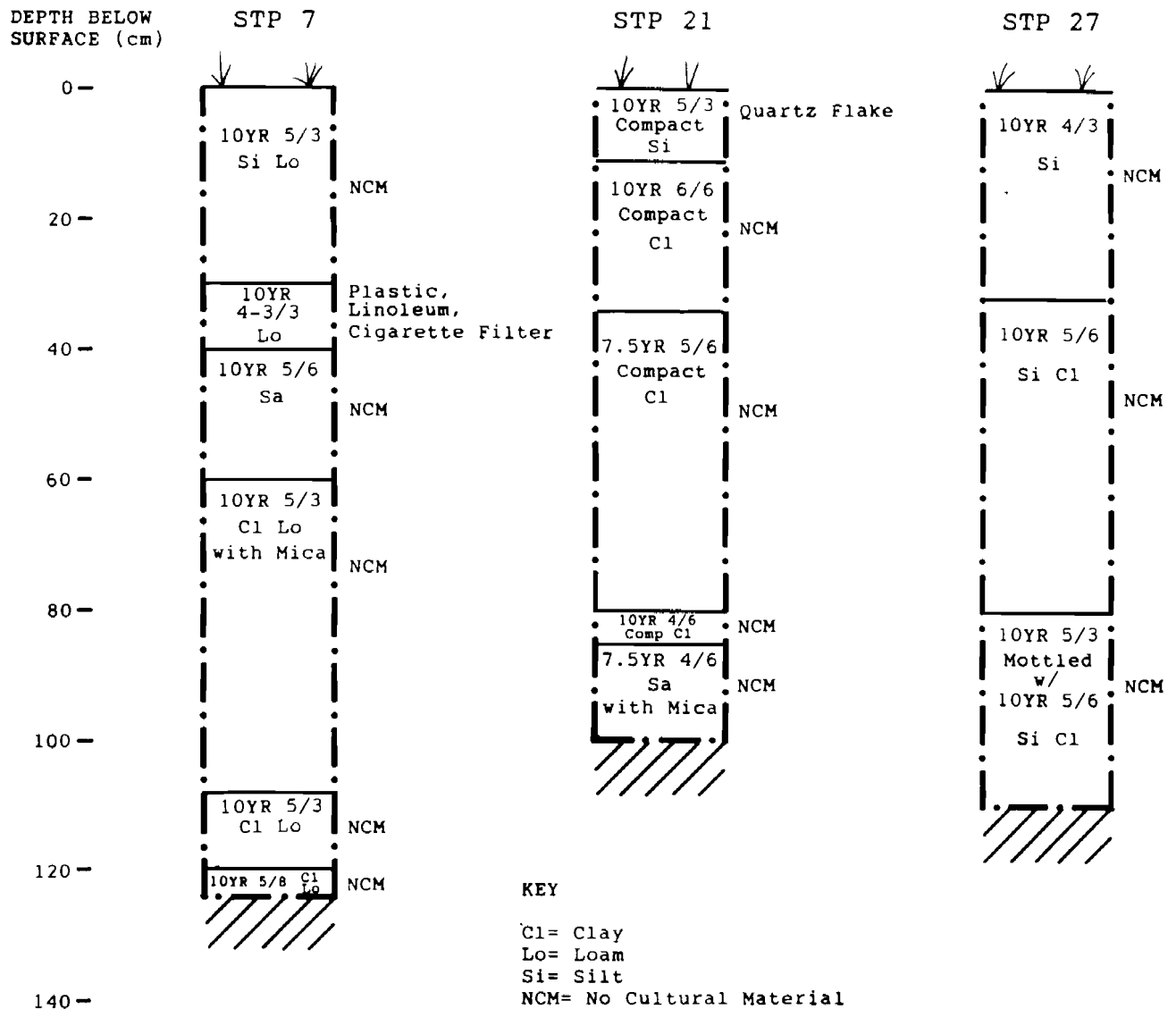


Figure 5. Representative Soil Profiles.



## **INTERPRETATIONS, CONCLUSIONS, AND RECOMMENDATIONS**

The Center for Public Archaeology's Phase I investigation of the Capitol Trail/Possum Park Road intersection did not reveal any cultural resources eligible for inclusion on the State or National Register of Historic Places. Both historic and prehistoric remains consisted of light scatters of material derived from disturbed contexts. Therefore, it is recommended that no additional cultural research investigations be conducted within the Possum Park/Capitol Trail intersection improvements project area.

The ephemeral nature of the prehistoric remains within and adjacent to the project area is interpreted as the remnants of limited exploitative forays by local prehistoric groups. Although there are numerous sites, primarily on the High Coastal Plain, within two miles of the study location, the poorly drained soils within the vicinity may not have provided predictable annual resources or suitable locations for campsites. Given the proximity of the better drained soils within the Coastal Plain, round-trip forays into the Piedmont Uplands of the project area were probably the traditional practice of local prehistoric populations. Historically, the project area was apparently used only as a cultivated field. No structures were erected upon it. Therefore, no archaeological resources have been identified within the project area and as such no additional investigations are deemed necessary.

## REFERENCES

- Baist, G. William  
1893 *Atlas of New Castle County, Delaware*. G. William Baist, Philadelphia.
- Beers, D.G.  
1868 *Atlas of the State of Delaware*. Pomeroy and Beers, Philadelphia.
- Catts, Wade P., and Ellis C. Coleman  
1986 Local Historical Summary. *Bulletin of the Archaeological Society of Delaware* 21:3-21. (New Series)
- Coleman, Ellis C., Kevin W. Cunningham, Wade P. Catts, and Jay F. Custer  
1985 *Intensive Archaeological Investigations of the Wilson-Slack Agricultural Works Complex, Chestnut Hill Road-Route 4, Newark, New Castle County, Delaware*. Delaware Department of Transportation Archaeological Series No. 34, Dover.
- Coleman, Ellis C., Kevin W. Cunningham, Jim O'Connor, Wade P. Catts, and Jay F. Custer  
1984 *Phase III Data Recovery Excavations of the William M. Hawthorn Site 7NC-E-46, New Churchman's Road, Christiana, New Castle County, Delaware*. Delaware Department of Transportation Archaeological Series No. 28, Dover.
- Coleman, Ellis C., Angela Hoseth, and Jay F. Custer  
1987 *Phase I and II Archaeological Investigations of the Ogletown Interchange Improvements Project Area, Newark, Delaware*. Delaware Department of Transportation Archaeological Series No. 61, Dover.
- Conrad, Henry C.  
1908 *History of the State of Delaware*. 3 Vol. Henry C. Conrad, Wilmington.
- Custer, Jay F.  
1984 *Delaware Prehistoric Archaeology: An Ecological Approach*. University of Delaware Press, Newark.
- 1986 A Management Plan for Delaware's Prehistoric Cultural Resources. *University of Delaware Center for Archaeological Research, Monograph No. 2*. Newark.
- 1989 *Prehistoric Cultures of the Delmarva Peninsula: An Archaeological Study*. University of Delaware Press, Newark.
- Custer, Jay F., and Colleen DeSantis  
1986 A Management Plan for the Prehistoric Archaeological Resources of Northern Delaware. *University of Delaware Center for Archaeological Research, Monograph No. 5*. Newark.

- Custer, Jay F., and Daniel R. Griffith  
1986        *Late Woodland Cultures of the Middle and Lower Delmarva Peninsula*. In *Late Woodland Cultures of the Middle Atlantic Region*, edited by Jay F. Custer, pp. 29-57. University of Delaware Press, Newark.
- De Cunzo, Lu Ann, and Wade P. Catts  
1992        *Management Plan for Delaware's Historical Archaeological Resources*. University of Delaware, Department of Anthropology, Center for Archaeological Research, Newark.
- Hopkins, G.M.  
1881        *Map of New Castle County, Delaware*. G.M. Hopkins and Company, Philadelphia.
- Hoseth, Angela, and Brian H. Seidel  
1993        Phase I and II Archaeological Investigations of the Ogletown Interchange Improvement and Proposed Wetland Replacement Areas, New Castle County, Delaware. (Draft). University of Delaware Center for Archaeological Research.
- Kauffman, Barbara E., and Richard J. Dent  
1982        Preliminary Floral and Faunal Recovery and Analysis at the Shawnee-Minisink Site (36 MR 43). In *Practicing Environmental Archaeology: Methods and Interpretations*, edited by Roger W. Moeller, pp. 7-11. *American Indian Archaeological Institute Occasional Publication Number 3*.
- Matthews, Earle D., and Oscar L. Lavoie  
1970        *Soil Survey of New Castle County, Delaware*. United States Department of Agriculture, Soil Conservation Service, Washington, D. C.
- McNett, Charles W., Jr., Barbara A. McMillen, and Sydne B. Marshall  
1977        The Shawnee-Minisink Site. In *Amerinds and Their Paleoenvironments in Northeastern North America*, edited by Walter S. Newman and Bert Salwen. *Annals of the New York Academy of Sciences Bulletin* 288:282-296.
- Rea, Samuel, and Jacob Price  
1849        *Map of New Castle County, Delaware from Original Surveys*. Smith and Wister, Philadelphia.
- Stewart, R. Michael, Chris Hummer, and Jay F. Custer  
1986        Late Woodland Cultures of the Middle and Lower Delaware River Valley and the Upper Delmarva Peninsula. In *Late Woodland Cultures of the Middle Atlantic Region*, edited by Jay F. Custer, pp. 58-98. University of Delaware Press, Newark.

## **APPENDICES**

## **PERSONNEL**

## PERSONNEL

John A. Cavallo, Principal Investigator, Director, Rutgers University Center for Public Archaeology.  
M.A. in Anthropology, Rutgers University. Ph.D. program in Anthropology, Rutgers University. Eighteen years experience in archaeological research in the Middle Atlantic region.

John W. Martin, Field Supervisor, Rutgers University Center for Public Archaeology  
B.A. in Anthropology, University of Delaware. Ph.D. program in Anthropology, Rutgers University. Thirteen years experience in archaeological research in the Middle Atlantic region.

Stepehn W. Yost, Data Manager/Report Technician, Rutgers University Center for Public Archaeology  
M.A. in Anthropology, Rutgers University. Ph.D. program in Anthropology, Rutgers University. Three years experience in archaeological research in the Middle Atlantic region.

Tamarra Castillo, Laboratory Manager, Rutgers University Center for Public Archaeology  
B.A. in Anthropology, State University of New York at Oneonta. Three years experience in archaeological research in the Middle Atlantic region.

Robert T. Williams, Draftsman, Rutgers University Center for Public Archaeology  
B.A. in Anthropology, Rutgers University. Five years experience in archaeological research in the Middle Atlantic Region

Jennifer Gordon, Field Technician, Rutgers University Center for Public Archaeology  
B.A. candidate in Anthropology, Rutgers University. One year experience in archaeology in the Middle Atlantic region.

Brenda Montgomery, Field Technician, Rutgers University Center for Public Archaeology  
B.A. in Anthropology, Bard College. Five years experience in archaeological research in the Middle Atlantic region.

Christy Roper, Field Technician, Rutgers University Center for Public Archaeology  
B.A. in Anthropology, Rutgers University. Three years experience in archaeology in the Middle Atlantic region.

Taylor Slemmer, Field Technician, Rutgers University Center for Public Archaeology  
B.A. in Anthropology, The George Washington University. M.A. in Anthropology, Rutgers University. One year experience in archaeology in the Middle Atlantic region.

## **ARTIFACT INVENTORY**

## ARTIFACT INVENTORY

<u>STP</u> <u>NO</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
2	1	Pearlware, Hand-painted in blue
8	1	Pearlware, Decoration unknown
	1	Whiteware, Undecorated
12	4	Brick fragments
	1	Window glass
21	1	Quartz flake

Plowed Field South of Possum Park Road:

1	Quartz core fragment
1	Quartz flake



## **SCOPE OF WORK**



STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION  
P.O. Box 778  
DOVER DELAWARE 19903

GOVERNOR

DIVISION OF HIGHWAYS

February 1, 1993

TELEPHONE

302 739 3826

John Cavallo  
Rutgers University  
Department of Anthropology  
P.O. Box 270  
New Brunswick, NJ 08903

**RE: Request for Proposal: Phase I & II Cultural Resources Survey  
SR2, Possum Park Road - Intersection Improvements  
Agreement 694 DOT Project 89-116-01**

Dear John:

The Division of Highways, Location and Environmental Studies Office, requests a research proposal, schedule and budget for conducting Phase I and II archeological investigations as part of DelDOT's study for the approximately two acre intersection improvements at SR2 and Possum Park Road, New Castle County, DE (Figure 1 & 2).

A cursory field review and records check at the SHPO's and DOT's offices noted that no standing structure are involved and that no mapped historic site exists. However, several prehistoric flakes were noted in the field and based upon predictive models generated for the Piedmont and Upper Coastal Plain Fall Line Zone the proposed construction may have an effect upon prehistoric sites.

You are one of four firms being contacted to conduct the Phase I & II archeological investigations within the project area and shall upon competitive selection and acceptance of the research proposal, schedule and budget by the Department of Transportation, Federal Highway Administration and the State Historic Preservation Office perform the following services under the direction of your principal investigator.

1. Conduct the necessary agency and project coordination, research and archival work, field investigations, artifact analysis and processing in a manner designed to satisfy Section 106 of the National Historic Preservation Act and the Delaware SHPO.
2. Contact "Miss Utility" at 1-800-282-8555 so that no underground utility lines will be disturbed.

3. Determine the site(s) significance, integrity and extent if it exists, and state whether the site(s) is eligible for nomination to the National Register of Historic Places.
4. Evaluate the site(s) within the context of local and regional studies of Delaware's prehistory.
5. Produce a final Delaware SHPO standard archaeological report documenting the investigations and their results.
6. Create an interesting one page public information handout describing the work you are doing, place on DOT letterhead and make it available to all site visitors.
7. Make recommendations and, if necessary, prepare a mitigation/data recovery plan complete with research design, schedule, budget and National Register Forms for the site(s) to be effected.
8. Demonstrate the ability to conduct the Phase I & II work within two weeks from notification to proceed. Have a completed draft report within six weeks from the start of the project.

Please send eight copies of your short, creative proposal to me by February 18, 1993. Place your budget in a sealed envelope marked "Proposal Budget". The Department's allowable maximum overhead is 123% and conforms to 48CFR Chap. 1, Sub part 31.2 in establishing its policy for evaluating consultant overhead. All computer costs are to be included in the overhead and not billed as a direct cost. A salary cap for all job classifications has been set at \$40/hr. Mileage costs not to exceed \$.28. Total project costs not to exceed \$25,000.

DelDOT will provide the following:

1. Project design sheets 1,2,6,7,16.
2. Land clearances.
3. Final report processing and distribution.

If you have any questions concerning the Department's needs for this project, please contact me. Thank you for your consideration in this project.

Very truly yours,

DIVISION OF HIGHWAYS



Kevin Cunningham  
DelDOT Archeologist

KC/kc

## **PROPOSAL FOR WORK**



Center for Public Archaeology  
Department of Anthropology  
Douglass Campus • P.O. Box 270 • New Brunswick • New Jersey 08903-0270  
908/932-1324 • FAX: 908/932-8891

## **PROPOSAL**

### **PHASE I & II CULTURAL RESOURCE SURVEY CAPITOL TRAIL (SR 2)/POSSUM PARK ROAD (SR 72) - INTERSECTION IMPROVEMENTS, NEW CASTLE COUNTY, DELAWARE**

## **INTRODUCTION**

This technical proposal and cost estimate is submitted by the Rutgers University Center for Public Archaeology at the request of Kevin Cunningham, Archaeologist, Location and Environmental Studies Office, Division of Highways, Delaware Department of Transportation. It is proposed that a combined Phase I/Phase II cultural resource survey be conducted as part of the proposed Capitol Trail (SR 2)/Possum Park Road (SR 72) intersection improvements project in New Castle County, Delaware. These Phase I/Phase II investigations will involve background research, a field reconnaissance survey, a program of subsurface testing designed to determine the presence or absence of significant archaeological remains and to assess their potential eligibility to the National Register of Historic Places, and the production of a report that will include relevant data along with appropriate evaluations, conclusions, and recommendations. The goal of this cultural resource survey will be the identification and definition of any potentially eligible prehistoric or historic archaeological features within the proposed project area.

The proposed project involves improvements at the intersection of Possum Park Road (SR 72) with Capitol Trail (SR 2) in the Windy Hills section of New Castle County, just to the east of the City of Newark. A project area of approximately 2 acres sited on the east and west sides of Possum Park Road and a short distance to the north of Capitol Trail has been delineated. An unnamed creek flows southward through the project area along the east side of Possum Park Road to its confluence with Middle Run, which runs westward through the southern end of the project area. The majority of the section of the project area to the east of Possum Park Road is

currently an unpaved parking area, while the section to the west of the road is characterized by dense brush.

## **RESEARCH DESIGN**

### **Discussion**

The Possum Park Road project area is located along the fall line at the interface between the High Coastal Plain and the Piedmont Uplands physiographic provinces and is characterized by low relief terraces overlooking the confluence of Middle Run and an unnamed tributary. The confluence of Middle Run and White Clay Creek is located roughly 600 feet to the south of the project area. Although no prehistoric sites have been reported within 5500 feet of the project area, it is located very near the border between those regions denoted as having high and medium site densities within the management plan for Delaware's prehistoric cultural resources (Custer 1986). In addition, the project area is located on the border between areas of "Medium/High Significance Probability, Medium Data Quality, Medium/Low Numbers of Known Sites" (Zone II), and areas with "Medium/High Significance Probability, High Data Quality, High Numbers of Known Sites (Zone III).

Known sites in the general vicinity of the Possum Park Road project area are situated within areas of low elevation in the White Clay Creek Valley, along both the creek and its tributaries. The uplands to the north of the creek are devoid of identified archaeological sites. The presence of a stream confluence within the project location and a larger confluence just to the south of the project area suggests that this setting may have been attractive for Native American exploitation. A few small flakes were, in fact, noted in the bank of Middle Run within the project area during a field visit by DelDOT's Archaeologist. It was not clear, however, whether these flakes were eroding out of the creek bank or had washed down slope from the terrace surface.

The project area lies within three miles of the Delaware Chalcedony Complex, a cryptocrystalline lithic resource site used throughout the prehistoric period and particularly noteworthy as a focus of Paleo-Indian activity. Utilizing the settlement patterns devised for the Paleo-Indian study unit, the project area would appear suitable for a quarry-related base camp as it is located at a confluence with a southern exposure and is situated in a setting with easy access to upland resources as well as to those in the floodplain of White Clay Creek. Archaic period settlement models for the Piedmont uplands suggest that the project area may have been the location of a procurement site or even possibly a micro-band base camp, with similar site types possible during the

Woodland I period. During the Woodland II period a procurement site seems most likely, as the proximity of the White Clay Creek valley and its obvious attractiveness for prehistoric settlement might have obviated the need for a micro-band camp within the project area (Custer 1986).

Possum Park Road was in place as a local connector between this section of the White Clay Creek valley and the Milford Crossroads area by the mid-19th century. The original course of this road in the vicinity of Capitol Trail is currently occupied by Old Possum Park Road, sited to the east of the project area. The present Possum Park Road was laid out during the 20th century in an effort to straighten the course of this roadway. A preliminary examination of 19th century maps has provided no evidence of primary historic period structures within the project area. Additionally, no historic period sites are included within the cultural resource inventory maintained by the Bureau of Archaeology and Historic Preservation.

### **Background Research**

The initial task in this investigation will involve the examination of various sources of information on the environmental setting, prehistory, and history of the project area. This information will allow for a more accurate assessment as to the potential presence of prehistoric and/or historic sites and features within the project area. It will also provide the data necessary to place the project area in its appropriate regional environmental and cultural context. Specific background research tasks will include the following:

- the examination of various sources dealing with the local and regional environmental setting for data relative to past and present environments, topography, soils, hydrology, geology, and vegetation.
- the examination of materials held by the Location and Environmental Studies Office of the Department of Transportation's Division of Highways.
- the examination of materials held by the Bureau of Archaeology and Historic Preservation, notably the state-wide inventory of cultural resources, cultural resource survey reports, and materials relating to the National Register of Historic Places.
- the examination of secondary sources relative to the local and regional prehistory and history of the project vicinity.

- the examination of all appropriate historic maps and selected primary documentary resources for data relative to the project area.
- the collection of pertinent information from local historical societies, knowledgeable local informants, and other local sources of information.

### **Field Survey**

With the completion of the pre-field portion of the background research accumulated information will be analyzed in preparation for the field reconnaissance survey. The entire project area will then be systematically surveyed for surface indications of archaeological remains. Soils will be examined using a soil probe to preliminarily assess their composition and depth and their potential for containing archaeological remains. A full analysis of the cultural landscape will be conducted, with surface indications of archaeological sites, architectural features, and zones of disturbance all receiving attention. All of these locations, along with any other elements associated with the cultural resources of the project area that are encountered, will be systematically mapped, photographed, and fully described. Any artifacts recovered will be plotted on site maps, bagged individually, and transported to the Center's laboratory for processing and analysis.

The subsurface testing strategy for the Phase I element of this work effort will comprise the excavation of shovel tests at 15 meter intervals within the project area (approximately 17 per acre). Additional shovel tests will be employed in the event of artifact discovery. These additional tests will be placed around the test that yielded artifactual material in order to better define the horizontal and vertical extent and integrity of the deposit. The testing interval will be reduced in areas along stream edges and in other locations that appear likely to contain prehistoric remains to assure adequate sampling in these high probability areas. It is anticipated that this program of testing, which will involve up to 50 shovel tests, will provide the coverage necessary to allow for the identification of any prehistoric and/or historic archaeological resources within the project area.

In the event of the discovery of artifacts in undisturbed archaeological contexts a Phase II program of testing will be implemented in order to establish their potential eligibility for nomination to the National Register of Historic Places. This effort will involve the excavation of four test units. These units will be excavated in 10 centimeter levels within natural soil horizons. Disturbed soils, including plowzone or fill deposits, will be excavated as a single level. A single page public information handout on DelDOT letterhead will be created prior to



the commencement of field work and made available to visitors and interested parties in the field.

As described above, this program of subsurface testing will involve the excavation of shovel tests (to be 0.5 meter square) and test units (to be one meter square). These will be supplemented by soil auger borings and by the use of metal probes. The soil borings will provide data relative to the composition of project area soils, their depositional history, and the extent of any natural and modern human alterations. Metal probes will be used to assist in the identification of buried archaeological features such as foundation walls and stone-boiling dumps. The locations of all shovel tests and test units will be clearly indicated on the project area base map. All tests will be excavated to the maximum depth of potentially artifact-bearing strata. All soils will be sifted through 1/4" hardware mesh. Artifacts and/or cultural features (fire hearths, refuse pits, foundation ruins, etc.) will be provenienced by the shovel test number and soil horizon(s) in which they occur. Profile summaries for all tests will be documented on specially designed forms and will include Munsell designations and descriptions of soil color, texture, and composition.

### **Analysis**

Information on the environmental and cultural history of the project area gathered during the background research phase will be evaluated within the framework of current models of prehistoric and historic human subsistence, settlement, social organization and land use. Data accumulated during the field reconnaissance survey and the subsurface testing phases will then be analyzed within the context of this framework. All prehistoric and historic artifacts recovered during the surface reconnaissance and subsurface testing programs will be washed and labeled with provenience information. They will then be classified according to their relative ages, cultural affiliations, material, and function. If appropriate, a representative selection of artifacts will be photographed and/or drawn for inclusion in the final report.

### **Report Preparation**

The final phase of this proposed work effort will involve the preparation of a final report. Report preparation will commence with the completion of a draft report for submission to the client. It is anticipated that this draft report will be reviewed by the client, with revisions and the production of the final report to follow. The client will receive one copy of the draft report with original plates. This document will meet the standards set for archaeological reports by the Delaware State Historic Preservation Office and will include the following sections:

- Title Page - providing the title, project level, location, author(s) and organization, client, and date of completion.
- Management Summary - providing a summary of the project type, location, and size, the review authority, methodology, results, evaluations, impacts, and recommendations.
- Table of Contents and Lists of Figures, Plates, Tables, and Appendices, as appropriate.
  
- Introduction - providing basic background information relative to the survey, including a summary of the scope of work, a discussion of applicable regulations, the reviewing agency, and project administration, project location, and a brief description of the project.
- Environmental Setting - providing summaries of the topography, geology, soils, vegetation, and past and present land uses within the project area.
- Previous Research - providing a review of any previous studies dealing with cultural resources within and adjacent to the project area.
- Cultural History - providing brief overviews of the prehistory and the history of the project area and, as appropriate, more detailed site-specific historical data for significant historic sites - copies of historic maps will be included within this section.
- Field Investigations - providing a review of the field work completed within the project area - this section of the report will include a research design, a methodology, inventories of identified prehistoric and historic archaeological sites and features - identified sites and features will be mapped and represented photographically.
- Conclusions and Recommendations - providing statements relative to the significance of any identified cultural resources and evaluations as to their potential National Register eligibility - if eligible cultural resources are identified, a mitigation/data recovery plan, to include a research design, budget, and schedule, will be prepared.
- References - providing a listing of all sources consulted during the course of the study.

- Appendices - providing resumes for key personnel involved in the completion of the study and, as appropriate, National Register of Historic Places nomination forms, representative test and unit profiles, artifact catalogs, and other necessary supporting materials.

#### **SCHEDULE**

The Center will commence work within two weeks of the receipt of written notification to proceed and will submit the completed draft report within six weeks of project commencement.